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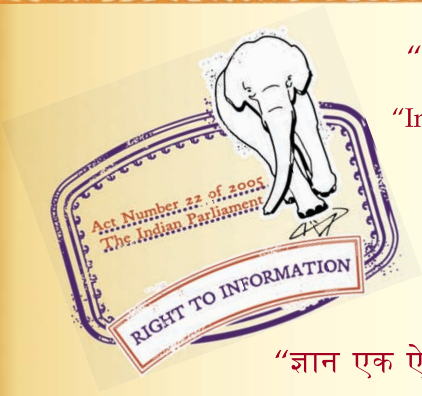
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Indian Standard

SPECIFICATION FOR METALLIC CARD CLOTHING

PART I TERMINOLOGY

UDC 677·051·178·4 : 669·14-426·3-447 : 001·4

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INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
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Price Rs 5·00 [redacted] Gr 3

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SPECIFICATION FOR METALLIC CARD CLOTHING

PART I TERMINOLOGY

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SPECIFICATION FOR METALLIC CARD CLOTHING

PART I TERMINOLOGY

0. FOREWORD

0.1 This Indian Standard (Part I) was adopted by the Indian Standards Institution on 11 August 1980, after the draft finalized by the Spinning Machinery (Cotton System) Sectional Committee had been approved by the Textile Division Council.

0.2 This standard has been prepared with the intention of eliminating ambiguity and confusion arising from local interpretations of terms and expressions used in relation to saw-tooth wire for metallic card clothing.

0.3 This standard is based on ISO/DIS 5234 ' Metallic card clothing — Terms and definitions ', issued by the International Organization for Standardization (ISO).

---

1. SCOPE

1.1 This standard (Part I) covers definitions of terms relating to saw-tooth wire of various cross sections and tooth forms for metallic card clothing.

2. DEFINITIONS

2.1 Cross Section of Metallic Saw-Tooth Wire

2.1.1 The definitions of terms relating to section of wire, as shown in Fig. 1, for mounting in a grooved roller or on the surface of an ungrooved roller are given in Table 1.

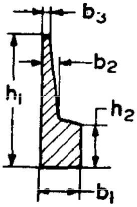


FIG. 1 WIRE WITH NORMAL RIB

2.1.2 The definitions of terms relating to different sections of wire, as shown in Fig. 2 and 3, for mounting on an ungrooved roller are given in Table 1.

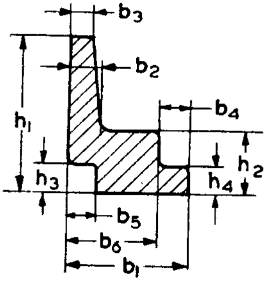


FIG. 2 WIRE WITH E-TYPE INTERLOCKING RIB

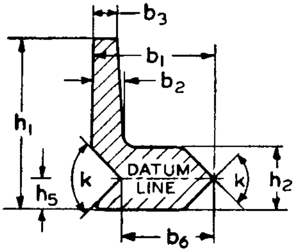


FIG. 3 WIRE WITH INTERCHAINING (V-TYPE INTERLOCKING) RIB

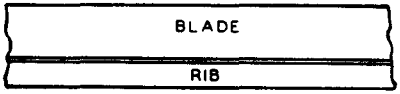
TABLE 1 DEFINITIONS OF TERMS RELATING TO DIFFERENT SECTIONS OF WIRE

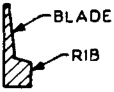
(*Clauses* 2.1.1 *and* 2.1.2)

SYMBOL	TERM	DEFINITION
h_1	Total height of wire	Height of wire from base to top of wire
h_2	Rib height	Height of rib from base of wire
h_3	Height of undercut	Height of undercut, measured from base of the wire
h_4	Height of tenon	Height of tenon, measured from base of the wire
h_5	Rib datum line	Measured from base of the wire point of *V*
b_1	Rib width	Width of wire from back to front at the base
b_2	Blade root width	Blade width measured at blade root
b_3	Blade tip width	Blade width measured at the blade tip
b_4	Width of tenon	Width of tenon from rib body
b_5	Width of undercut	Width of undercut from back of wire to rib body
b_6	Pitch width of rib	Width from back of wire to tenon
k	Included angle of V-rib	—

2.2 Tooth Forms

2.2.0 The terms relating to tooth forms are defined in **2.2.1** to **2.2.3**; wire forms have been shown facing the rib.





2.2.1 *Hand of Teeth* — Wires with left-hand and right-hand points are shown in Fig. 4 and 5.

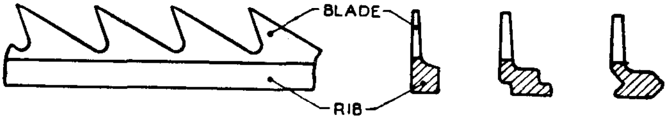


FIG. 4 WIRE WITH LEFT-HAND POINTS

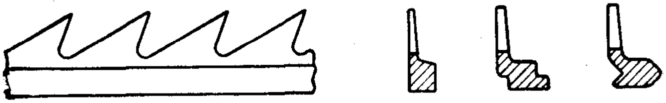


FIG. 5 WIRE WITH RIGHT-HAND POINTS

2.2.2 *Angles of Wire* — Definitions of angles of wire are given in Table 2.

2.2.3 *Types of Wire* — Definitions of terms relating to types of wire are given in Table 3 read with Fig. 6 to 12.

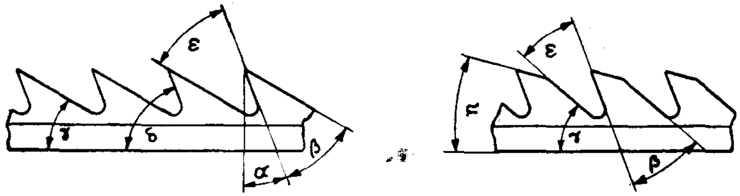
2.3 Method of Mounting the Foregoing Wire Sections

2.3.1 Mounting of wire sections on the surface of an ungrooved roller is shown in Fig. 13 and 14.

2.3.2 Mounting of wire section in a grooved roller is shown in Fig. 15.

TABLE 2 DEFINITIONS OF ANGLES OF WIRE

(*Clause* 2.2.2)



SYMBOL	TERM	DEFINITION
α	Front angle (Rake angle)	Angle between front of tooth and a perpendicular to the base
β	Wedge angle	Angle between front angle and back angle of tooth
γ	Back angle	Angle between back of tooth and base of wire
δ (90 — α)	Front angle	Angle between front of tooth and base of wire
ε	Included angle	Angle between front and back of two adjacent teeth (ε = β)
η	Back point angle	Angle between flat on top of tooth and base of wire

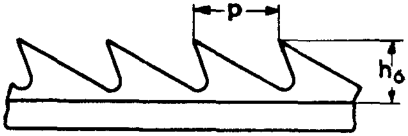


FIG. 6 POINTED WIRE

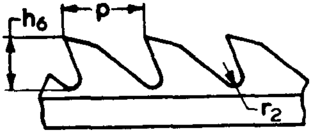


FIG. 7 DIAMOND POINT WIRE

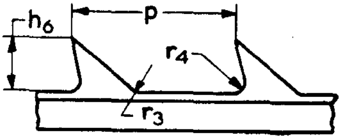


FIG. 8 EXTENDED PITCH WIRE

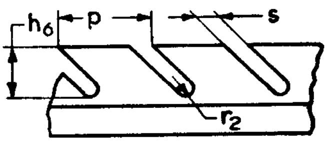


FIG. 9 MOREL WIRE

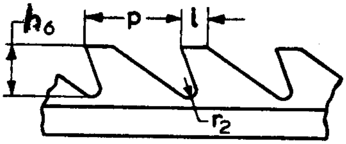


FIG. 10 FLAT TOP WIRE

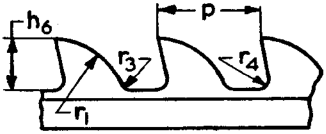


FIG. 11 POINTED CURVED BACK WIRE

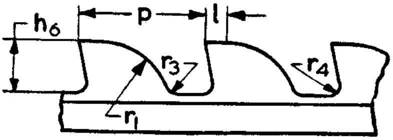


FIG. 12 CURVED BACK WITH FLAT TOP WIRE

TABLE 3 DEFINITIONS OF TERMS RELATING TO TYPES OF WIRES

(*Clause* 2.2.3)

SYMBOL	TERM	DEFINITION
h_6	Tooth depth	Depth of tooth cut out measured from tip of tooth
p	Tooth pitch	The distance from tip to tip of the wire point parallel to the base of wire
l	Land	Length of flat on top of the tooth
s	Slot width	Width of punch blade
r_1	Back radius	—
r_2	Tooth root radius	Radius at the root of the tooth
r_3	Back root radius	Radius blending into back of tooth
r_4	Front root radius	Radius blending into front of tooth

2.4 Definitions of terms relating to mounting of metallic card wire are given in Table 4 read with Fig. 15.

2.4.1 Single wire winding and multiple wire winding are shown in Fig. 16 and 17 respectively.

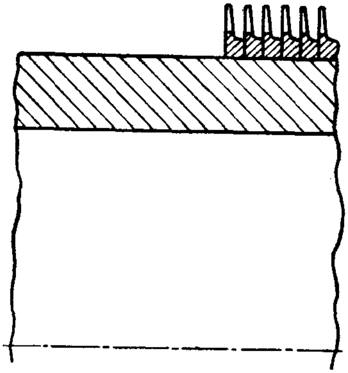


FIG. 13 MOUNTING OF WIRE WITH NORMAL RIB ON AN UNGROOVED ROLLER (*see* FIG. 1)

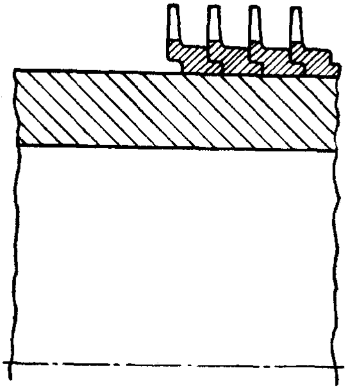


FIG. 14 MOUNTING OF WIRE WITH INTERLOCKING RIB ON AN UNGROOVED ROLLER (*see* FIG. 2)

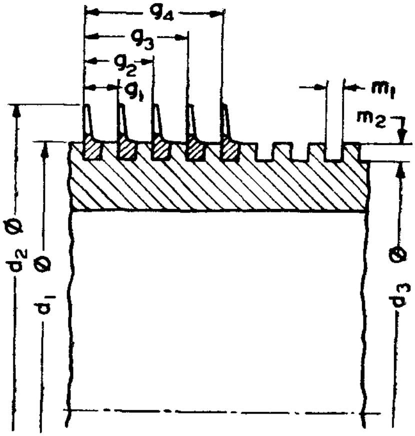
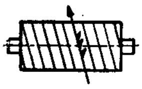


FIG. 15 MOUNTING OF WIRE WITH NORMAL RIB IN A GROOVED ROLLER (*see* FIG. 1)

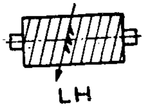
TABLE 4 DEFINITION OF TERMS RELATING TO WIRE MOUNTING

(*Clause* 2.4)

SYMBOL	FORMULA	TERM	DEFINITION
d_1		Bare diameter	Diameter of bare roller on which the wire is mounted or in which the groove is cut
d_2		Diameter over wire or top diameter	Diameter measured over the tips of the wire when mounted
d_3	$d_3 = d_1 - 2\,m_2$ $d_3 = d_2 - 2\,h_1$	Groove root diameter	Diameter of bare roller (d_1) minus twice the groove depth (m_2) *or* Diameter over tips (d_2) minus twice the total height of wire (h_1)
m_1		Width of groove	
m_2		Depth of groove	Depth to which the groove is cut below the surface of the bare roller
g_1		Pitch of wire rows	Distance from face to face of adjacent wires measured parallel to the roller axis
g_2 g_3 g_4 etc		Lead	Distance from face to face of one individual wire measured parallel to the roller axis. The index indicates the number of starts
R. H.		Right-hand lead	The helix angle of the card wire is inclined from right-hand to left-hand with the roller axis viewed laterally  RH

(*Continued*)

TABLE 4 DEFINITION OF TERMS RELATING TO WIRE MOUNTING — *Contd*

SYMBOL	FORMULA	TERM	DEFINITION
L. H.		Left-hand lead	The helix angle of the card wire is inclined from left-hand to right-hand with the roller axis viewed laterally 
T	$T = \frac{\text{unit of length}}{p}$	Teeth per unit length	Teeth per unit length, measured on straight wire
R	$R = \frac{\text{unit of length}}{g_1}$	Rows of wire per unit length	Number of rows of wire per unit length, measured across the face of the roller parallel to the roller axis
D	$D = T \times R$	Point density or number of point per unit	Teeth per unit length × row of wire per unit length

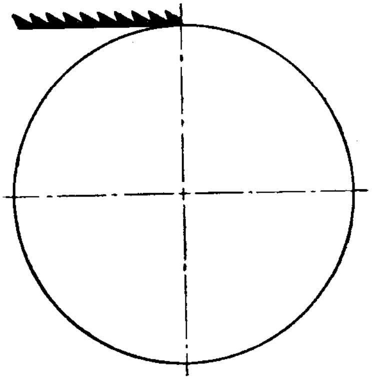


FIG. 16 SINGLE WIRE WINDING

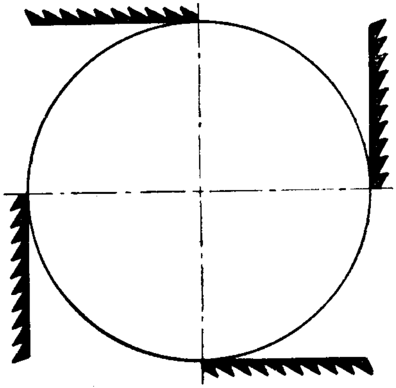


FIG. 17 MULTIPLE WIRE WINDING